

Application No.: 10/528,443

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Docket No.: 595222000100

AMENDMENTS TO THE CLAIMS

The following list of claims replaces all prior versions and lists of claims:

Claim 1 (currently amended): A method for enhancing molecular chaperone activity of ~~α -crystalline α -crystallin~~ (comprising ~~of forms α A-crystalline α A-crystallin or an active mutant thereof and α B-crystalline α B-crystallin or an active mutant thereof~~) with a biological biologically compatible amino acid molecule of Arginine Hydrochloride ("Arg.HCl"), said method comprising the steps of:

- (a) ~~isolating and purifying α -crystalline α -crystallin from calf eye lenses by convention methods (as described in reference 24), and~~
- (b) ~~reacting α -crystalline α -crystallin in the presence of phosphate buffer of pH 7.4 with Arg.HCl and either insulin or ζ -crystalline ζ -crystallin in presence or absence of DTT, and~~
- (c) observing ~~[[the]]~~ an enhancement in chaperone activity of ~~α -crystalline α -crystallin~~ in the presence of Arg.HCl ~~by fluorescence spectrophotometer.~~

Claim 2 (cancelled).

Claim 3 (original): A method as claimed in claim 1, wherein Arg.HCl is in the range of about 50 to 350 mM.

Claim 4 (currently amended): A method as claimed in claim ~~[[3]]~~ 1, wherein Arg.HCl is in the range of about 100 to 300 mM.

Claim 5 (currently amended): A method as claimed in claim 1, wherein Arg.HCl enhances the chaperone activity of ~~α -crystalline α -crystallin~~ by about 95%.

Claim 6 (currently amended): A method as claimed in claim ~~[[5]]~~ 1, wherein Arg.HCl enhances the chaperone activity of ~~α -crystalline α -crystallin~~ by about 90%.

Claim 7 (currently amended): A method as claimed in claim 1, wherein Arg.HCl ~~enhance~~ enhances the chaperone activity of ~~α -crystalline α -crystallin~~ by about 90% in presence of various aggregation systems.

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Claim 8 (currently amended): A method as claimed in claim ~~[[7]]~~ 1, wherein Arg.HCl ~~enhance~~ enhances the chaperone activity of α -crystalline α -crystallin by about 81% in presence of various aggregation systems.

Claim 9 (currently amended): A method as claimed in claim ~~[[1 and]]~~ 7, wherein the aggregation systems ~~may be system selected from group comprising~~ comprises of insulin, or ζ -crystallin ~~and related compounds~~.

Claim 10 (currently amended): A method as claimed in claim 1, wherein Arg.HCl at a temperature of about 30°C protects the α -crystalline α -crystallin by about 35%.

Claim 11 (currently amended): A method as claimed in claim 1, wherein Arg.HCl at a temperature of about 30°C protects the α -crystalline α -crystallin by about 28%.

Claim 12 (cancelled).

Claim 13 (currently amended): A method as claimed in ~~claims 1 and 12~~ claim 1, wherein in the presence of Arg.HCl the molecular mass of α -crystalline α -crystallin is reduced to ~360 kDa ~~thereby bringing about subtle changes in the tertiary structure and significant changes in the quaternary structure of both homo-multimers or hetero-multimers of α A-crystalline and α B-crystalline to enhance the chaperone activity.~~

Claim 14 (currently amended): A method as claimed in claim 1, wherein ~~wild-type and the~~ mutant α A-crystalline α A-crystallin ~~is~~ is ~~[[are]]~~ less sensitive to Arg.HCl than α B-crystalline α B-crystallin, thereby enhancing the chaperone activity.

Claim 15 (currently amended): A method as claimed in ~~claims~~ claim 1 ~~and 14~~, wherein ~~protection~~ a protective effect of mutant α B-crystalline α B-crystallin (R120 α B-crystallin) is about 80% that of wild type α B-crystallin in the presence of Arg.HCl.

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Claim 16 (currently amended): A method as claimed in claim [[15]] 1, wherein ~~protection a~~ protective effect of mutant ~~α B-crystalline~~ α B-crystallin (R120 α B-crystallin) is about 75% that of wild type α B-crystallin in the presence of Arg.HCl.

Claim 17 (currently amended): A method as claimed in claim 1, wherein Arg.HCl enhances the ~~α -crystalline~~ α -crystallin chaperone activity by about 45% by exposing the hydrophobic surfaces of ~~α -crystalline~~ α -crystallin.

Claim 18 (currently amended): A method as claimed in claim [[14]] 1, wherein Arg.HCl enhances the ~~α -crystalline~~ α -crystallin chaperone activity by about 38% by exposing the hydrophobic surfaces of ~~α -crystalline~~ α -crystallin.

Claim 19 (new): A method as claimed in claim 1, wherein the enhancement in chaperone activity of α -crystallin is observed by fluorescence spectrophotometer.

Claim 20 (new): A method as claimed in claim 1, wherein the mixing of α -crystallin with Arg.HCl and either insulin or ζ -crystallin is carried out in the presence of dithiothreitol ("DTT").

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